

## Book Reviews

A HISTORY OF THE STUDY OF HUMAN GROWTH. By J.M. Tanner. New York: Cambridge University Press. 1981. xi + 499 pp., figures, tables, references, notes, index. \$69.50 (cloth).

To encapsulate a significant fragment of mankind's experience and examine it closely is an act of some social importance. Professor J.M. Tanner's *A History of the Study of Human Growth* is an appreciative view by a leading growth scientist. In fifteen chapters he traces the history of the study of human growth from the 6th century BC Greeks to the present.

The narration is 'selective' rather than "comprehensive", showing the evolution of aesthetic and philosophical traditions that formed the foundation for the introduction of measurement in the seventeenth and eighteenth centuries. Throughout the text, particularly in viewing the first longitudinal growth studies, the author deftly establishes the ambient societal conditions with an economical expositional style that will please the historian as well as the scientist and the clinician. Unfailingly, the author treats topics such as the secular trend in reports of the Marine Society in England or the military statistics in different countries with an aplomb far removed from the usual uninspired review of the literature.

Tanner properly focuses attention on Adolphe Quetelet (1796-1874) whom he describes as one of the major figures in science and public health in the first half of the nineteenth century. In expanding on the rising consciousness concerning public health and the beginning of auxological epidemiology, he chronicles the humanitarian drive in child studies and makes salient political commentary on social class and economic exploitation.

Perhaps as only one who has been personally involved in the labor of cross-sectional and longitudinal data assemblies can do, the author appreciatively highlights the contributions of prime-movers: Charles Roberts and the studies arising out of the concern for the plight of factory children; Francis Galton who was one of the first proponents of stratified

sampling; and, the American, Henry Bowditch, whose advocacy and example of growth monitoring in the 1880's "make very up-to-date reading." Tanner is also appreciative in writing about Franz Boas (1858-1942) who was able to approach the problem of the "tempo of growth" with great insight. Boas integrated concepts of physical anthropology and forged a bridge between older concepts and the newer disciplines in human biology.

Although Tanner recognizes the contribution of D'arcy Thompson (1860-1948) and his classic work "On Growth and Form," he is reluctant to pursue the theme of growth, structure, and human performance. Despite his oft-quoted comments on scaling metabolic events and his contribution in measuring and interpreting data on Olympic athletes, the author appears to ignore the kinanthropometric aspect of human growth that emerged in the 1970's as a major theme.

Tanner does, however, reflect his considerable experience as a clinician in discussing contributions to the study of human growth by obstetricians and pediatricians. He reports vintage data on newborn infants with a scientist's awareness of sources of systematic error from technique, units of measurement and ambient birth conditions. He discusses the impetus to growth study by infant welfare clinics in England and the publication of textbooks and growth standards, chiefly in Germany.

In the latter chapters Tanner acknowledges his own historical roots in clinical medicine, educational psychology, and child development. He associates the latter with North American longitudinal growth studies and human biology. The study of growth disorders, however, he generally associates with European longitudinal growth studies.

Tanner's entry into the area of the history of science is a work within a personal philosophical frame of fixed-points, not cluttered by other scientists' misstatements and inept interpretations. The recurring theme of the secular trend to earlier maturation is punctuated with comments on the age of menarche, which is associated with social class, urbanization, and conditions of nutrition. His use of

growth charts developed in his own laboratories permits elegant interpretation of stature data gleaned from many sources.

Meticulous references to 1255 sources, 77 figures, and 38 pages of personal notes make *A History of the Study of Human Growth* a major contribution. Because of its selectivity, it does not have the vast historical perspective or detail of Edith Boyd's posthumous *Origins of the Study of Human Growth* based on the unfinished work of Richard Scammon. Nevertheless, Professor Tanner, capably and often eloquently brings forth fragments of the past that are significant. His history successfully

shows the interplay of social, medical and intellectual "impulses" which have influenced those engaged in the study of human growth. The book is an indispensable reference for medical, social and economic historians as well as human biologists of many disciplines and professions where an understanding of the history of the study of human growth is both legacy and inspiration.

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THE WOMAN THAT NEVER EVOLVED. By Sarah B. Hrdy. Cambridge: Harvard University Press. 1981. ix + 256 pp., figures, tables, notes, index. \$17.50 (cloth).

Sarah Hrdy brings a unique perspective to the evolutionary reconstruction of human behavior. Hrdy is a scientist with a refreshing dual commitment to both feminism and evolutionary biology. When she brings this perspective to bear on her extensive knowledge of primate social behavior, she comes up with a unique formulation explaining sex differences in the anatomy and behavior of nonhuman primates, the evolutionary principles lying behind the development of such differences for various species, and finally, an analysis of the meaning of this formulation for understanding human sex differences.

The book begins with a discussion of the many theories anthropologists have put forth to explain the evolution of the human species and its impact on human sex differences and sex roles. Virtually all such theories point to male dominance as a human characteristic that is directly related to some essential and pivotal feature of human evolutionary history: the sexual division of labor related to subsistence, the production of surpluses and the rise of trade economies, big game hunting, the discovery of the "self" and the formation of ego boundaries, or binary conceptualizations of the universe that equate women with nature and men with culture. Hrdy argues that such myopic analyses, which view human male dominance only from the perspective of human behavior, fail to take into account that male dominance is characteristic of most nonhuman primate societies. Furthermore, a refusal to see humans as one

primate species among many hides the fact that there are important ways in which human females are in a worse position than are females of other primate species because they usually cannot feed themselves and their offspring unaided.

The bulk of the book represents an attempt to create a perspective on the evolutionary biology of women by evaluating their female primate heritage. These chapters are original, high quality formulations presenting and explaining the behavior of female primates using a combination of sociobiological and socioecological principles of analysis. One of the highlights of these chapters can be found in her discussions of the social relationships and ecological settings found associated with monogamy in primates. Although monogamy is rare in mammals (4%), it is surprisingly common among primates (18%). She argues that the recurring appearance of monogamy among New World monkeys and prosimians suggests it might have been very old in the primate order. Monogamy seems to be always associated with high levels of male parental investment in young and low sexual dimorphism, and is most common in highly *K*-selected species. Hrdy also reviews another secondary pattern leading to facultative monogamy among a number of Old World monkeys, a response to heavy human predation.

Another fascinating chapter centers on the little known species of lemurs and New World and Old World monkeys that have societies based on polygyny and female dominance. In these species, females routinely dominate males even though males are larger. Males appear to defer their aggression and dominance potential to the one point in the year when it really counts for them: the breeding season.